

Teams of two will work to design, build, program, test, evaluate, and modify an NXT SUMO BOT to compete in the challenge.

ROBOT RULES:

* The Robot must be made ENTIRELY out of LEGO parts.
* A maximum of 1 NXT for control and 3 motors for movement/actuation can be used.
* Robots must include a minimum of one sensor (light, touch, etc)
* The robot must fit a 7" x 7" x 7” size requirement when it is in it's starting configuration.
* The robot must be designed and programed (autonomously) to wait five seconds, after the contestant presses a start button, and then touch the black outer ring before it engages the opponent robot.
* The robot must always move.
* The robot must weigh no more than 1 lb, 10 oz. when in it's starting configuration.

THE FIELD:

* The playing field is a raised circle with the dimensions as shown below.
* Diameter: 34 Inches (Gloss white, flat and smooth).
* Border line: 1.25 Inches (Black)
* Starting line width: 0.5 Inches
* Starting line length: 4 Inches

THE MATCH:

* A match consists of a 30 second autonomous period (including the 5 second wait period) followed by a 30 second tele-op period.
* A match considered over when one of the following occurs:
* When a robot ejects its opponent from the playing field with a fair action. The robot is considered ejected the moment ANY part of the robot exits the playing field.
* When the opponent's robot goes out of the playing field on its own for any reason.
* When the opponent's robot stops moving on the playing field for more than 10 seconds.
* If the opponent's operator interferes with either robot, or the field, during the match.

Next Steps:

* Go online and find videos of NXT SUMO challenges… there are many available on YOUTUBE and SuGoBot.com/videos.
* Watch a minimum of 3 different NXT SUMO videos (watching a few extra might be a good idea to help you visualize and plan your own NXT SUMO BOT) then, discuss the following questions with your partner:

Video 1: Describe the winning robot, what advantage did this robot appear to have over its opponent? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Video 2: Describe the winning robot, what advantage did this robot appear to have over its opponent?

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Video 3: Describe the winning robot, what advantage did this robot appear to have over its opponent?

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Begin your (online) Engineering Notebook (the template is on my WIKI page) with the following for your first entry:

* Todays date.
* Your initial thoughts about this challenge.
* What new parts and sensors will you need to learn about?
* How will your team divide up the work-load for this challenge?
* A detailed, labeled, and aesthetically pleasing (feel free to use a ruler/straight edge and or compass) image of your initial plan for the robot.